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DATE MAILED: 09/21/2006

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/679,710  | 10/03/2003  | Arthur M. Krieg      | C1039.70074US00     | 9983             |
| 7590 09/21/2006   |             |                      | EXAMINER            |                  |
| Patrick R. H. V   |             | HORNING, MICHELLE S  |                     |                  |
| Wolf, Greenfield & Sacks, P.C. 600 Atlantic Avenue Boston, MA 02210 |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1648                |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|  | Application No.  | Applicant(s) |  |  |  |  |
|--|--|--------------|--|--|--|--|
|  | 10/679,710   | KRIEG ET AL. |  |  |  |  |
| Office Action Summary  | Examiner   | Art Unit     |  |  |  |  |
|  | Michelle Horning   | 1648         |  |  |  |  |
| The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply   |  |              |  |  |  |  |
| A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). |  |              |  |  |  |  |
| Status   |  |              |  |  |  |  |
| 1) Responsive to communication(s) filed on 18 Ma   | arch 2004.   |              |  |  |  |  |
|  | action is non-final.   |              |  |  |  |  |
|  | 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is |              |  |  |  |  |
| closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  |  |              |  |  |  |  |
| Disposition of Claims  |  |              |  |  |  |  |
| 4)⊠ Claim(s) <u>19-92</u> is/are pending in the application.   |  |              |  |  |  |  |
| 4a) Of the above claim(s) is/are withdrawn from consideration.   |  |              |  |  |  |  |
| 5) Claim(s) is/are allowed.  |  |              |  |  |  |  |
| 6) Claim(s) is/are rejected.   |  |              |  |  |  |  |
| <u> </u>   | 7) Claim(s) is/are objected to.  |              |  |  |  |  |
| 8) Claim(s) 19-92 are subject to restriction and/or election requirement.  |  |              |  |  |  |  |
| Application Papers   |  |              |  |  |  |  |
| 9) The specification is objected to by the Examiner.   |  |              |  |  |  |  |
| 10)☐ The drawing(s) filed on is/are: a)☐ accepted or b)☐ objected to by the Examiner.  |  |              |  |  |  |  |
| Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  |  |              |  |  |  |  |
| Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).   |  |              |  |  |  |  |
| 11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  |  |              |  |  |  |  |
| Priority under 35 U.S.C. § 119   |  |              |  |  |  |  |
| 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of:   |  |              |  |  |  |  |
| 1. Certified copies of the priority documents have been received.  |  |              |  |  |  |  |
| 2. Certified copies of the priority documents have been received in Application No.  |  |              |  |  |  |  |
| 3. Copies of the certified copies of the priority documents have been received in this National Stage  |  |              |  |  |  |  |
| application from the International Bureau (PCT Rule 17.2(a)).  |  |              |  |  |  |  |
| * See the attached detailed Office action for a list of the certified copies not received.   |  |              |  |  |  |  |
| Attach as ant/s)   |  |              |  |  |  |  |
| Attachment(s)  1) Notice of References Cited (PTO-892)  4) Interview Summary (PTO-413)   |  |              |  |  |  |  |
| 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 4) Interview Summary (PTO-413) Paper No(s)/Mail Date   |  |              |  |  |  |  |
| 3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date   | 5) Notice of Informal Pa   |              |  |  |  |  |

Art Unit: 1648

## **DETAILED ACTION**

Claims 1-18 have been cancelled. Claims 19-92 have been previously presented.

Claim 93 is a new claim. The claims are drawn to multiple species and election of each, in addition to their corresponding subspecies, are required.

## Election of Species

1. This application contains claims directed to the following patentably distinct species:

A method of administering an immunostimulatory sequence to a subject with an immune system deficiency:

- 1A. in which a specific disorder is being treated; and
- 1B. in which the method elicits a specific cytotoxic response in a subject with an immune system deficiency is *associated* with a specific disorder or specific therapy.

Inventions1A and 1B are unrelated because they are methods with different modes of operation, with respect to physiological mechanisms, protocol procedures, and end products; therefore, each method is patentably distinct.

2. This application contains claims directed to the following patentably distinct species:

The targeting means is selected from:

- 2A. a sterol;
- 2B. one specific lipid (a specific election is required from list in claim 25); and
- 2C. a target cell specific receptor or ligand (a specific election of species is required).

Application/Control Number: 10/679,710

Art Unit: 1648

The species are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions represent structurally different species. Therefore, where structural identity is required, such as for targeting means, the different sequences have different effects. Furthermore, the specification does not disclose that they are capable of use together.

Page 3

3. This application contains claims directed to the following patentably distinct species:

The immunostimulatory nucleic acid is selected from:

3A. election of one specific sequence is required (such as those from list in claim 27).

The species are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions represent structurally different polynucleotides encoding them. Therefore, where structural identity is required, such as for induction of cytotoxic repsonses, the different sequences have different effects. Furthermore, the specification does not disclose that they are capable of use together.

4. This application contains claims directed to the following patentably distinct species:

The specific disorder or therapy from which the immune system deficiency is associated or the specific disorder being treated is selected from:

4A. tumor or cancer;

Application/Control Number: 10/679,710

Art Unit: 1648

- 4B.chemotherapy;
- 4C. immunotherapy;
- 4D. human immunodeficiency virus;
- 4E. a specific infection (a specific bacterial, viral, fungal etc etc infection is required such as those listed in claim 51);
  - 4F. radiation therapy;
  - 4G. immunosuppresion following bone marrow transplantation;
  - 4H. immunosuppression caused by treatment for an autoimmune disease; and
  - 41. immunosuppression following organ transplantation.

Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are not disclosed as being used together in the specification.

5. This application contains claims directed to the following patentably distinct species:

The target cell is selected from:

- 5A. B-cell; and
- 5B. natural killer cell.

Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are not disclose to be used together in the specification.

Art Unit: 1648

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, all claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

## Joint Inventors

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 1648

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Horning whose telephone number is 571-272-9036. The examiner can normally be reached on Monday-Friday 8:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Midhelle Horning

Patent Examiner

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